Tar

IIT Research Institute
10 West 35 Street, Chicago, Illinois 60616
312/567-4000

2 June 1980

Cleon B. Feight
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Mr. Feight:

IITRI is planning to carry out an experiment using radio frequency energy to extract oil from tar sand, *in situ*. This is a new process and it is not clear to us whether your division is interested in our activity. To avoid delays, I have assumed that Rule M applies. Therefore, I wish to file a "Notice of Intention to Commence Mining Operations".

Please find enclosed:

1. MR Form 1;
2. a map of the test site;
3. reclamation statement;
4. description of a field test;
5. drilling activity statement; and
6. request for confidentiality.

I hope that this material is sufficient to enable you to determine if the IITRI activity falls under your jurisdiction. If it does, then I trust the information you need to approve our request is provided.

Our plan is to begin an experiment this year. If questions arise, please call me at (312) 567-4473, and I will expedite a response. Thank you for your assistance in this matter.

Sincerely yours,

IIT RESEARCH INSTITUTE

Carlos A. Riveros
Research Engineer

CAR/lw

Encl.

cc: R. D. Carlson, Project Manager

IITRI TAR SAND FIELD TEST
(TARZAN ONE)

1. DESCRIPTION OF FIELD TEST

A new and proprietary *in situ* technique for the extraction of oil from tar sand using radio frequency energy has been developed, laboratory tested and patented by IIT Research Institute (IITRI).

In order to evaluate our technique, a field test consisting of several experiments is planned. The field test will be carried out over several months and will verify theoretical models for the electrical, thermal and chemical behavior of tar sand. Much activity will be focused on the check-out of the field equipment which has been specially designed for the experiments. To facilitate the logistics of the test, a site near the city of Vernal, Utah has been selected. The target material is a block of tar sand, rim rock deposit, located as an outcrop on land leased from the SOHIO corporation.

The planned experiments will require the placement of an array of electrodes vertically in the deposit. At the bottom of the array, instrumentation and collection will take place in a small room with an access tunnel. The room and tunnel will require the removal of about 90 tons of material.

The work envisioned would include the following activities:

a. Site Preparation, to include:
   - grading of a short site access road;
   - construction of tunnel and room in outcrop;
   - grading of trailer pads above array and below level of tunnel opening;
   - drilling of holes for electrodes;
   - setup of lines to and from trailers.

b. Experimentation, to include:
   - installation of electrodes into boreholes;
   - installation of recovery plumbing;
   - installation of instrumentation;
   - static measurements of array properties;
   - dynamic measurements of array properties;
   - collection and analysis of product.

c. Site Cleanup, to be undertaken after all experiments are complete, including:

- removal of all equipment, product and waste;
- regrading of site landscape.

2. RECLAMATION

The IITRI technique is intrinsically clean compared to other processes. A review of the reclamation standards, Rule M-10, suggests no special concern. The land affected will be chiefly that area which is graded. The material removed for the tunnel and room will be used to seal the tunnel entrance. The graded material will be used to landscape the site to a condition similar to that prior to the operation. Trash and other litter will be collected and hauled away. Water use is essentially limited to human needs and not necessary for the technique. Public safety and welfare will be sought by posting warning signs and fencing the test site area.

3. DRILLING ACTIVITY

Approximately thirty boreholes, closely spaced in a pattern will be necessary for the implacement of electrodes. The overall pattern or array will cover less than one hundred square feet. The borehole will be about four inches in diameter. One of the later experiments will require that several feet of soil cover the array. It is planned to leave the array covered in order to seal the boreholes.

4. CONFIDENTIALITY

Due to the proprietary nature of the field activity, IITRI requests that all information be treated as confidential.